MEMORANDUM

TO: Members, Clark Fork Basin Water Management Task Force (Task Force)
FROM: Gerald Mueller
SUBJECT: Summary of the October 1, 2007 Task Force Meeting
DATE: October 3, 2007

Participants

The following people participated in the Task Force meeting:

Task Force Members:

Harvey Hackett	Bitterroot
Fred Lurie	Blackfoot Challenge
Nate Hall	Avista
Ted Williams	Flathead Lakers
Jim Dinsmore	Upper Clark Fork
Holly Franz	PPL Montana
Gail Patton	Sanders County Commissioner
Marc Spratt	Flathead Conservation District/Flathead Chamber of Commerce

Ex Officio Member

Sen. Verdell Jackson

Public

Dr. David Shively	University of Montana, Department of Geography
Tim Bryggman	DNRC
Steve Fry	Avista

Staff:

Curt Martin	DNRC
Gerald Mueller	Consensus Associates

Meeting Agenda

- September 17, 2007 Meeting Summary
- Updates
  - Task Force membership
  - Basin Water Supply and Growth Conference
  - Sub-basin activities
- Basin exempt well activities
- Water Policy Interim Committee Priorities
- Hungry Horse Water Activities
  - Consultation with basin local governments
  - Consultation with the Confederated Salish and Kootenai Tribes
- Next Steps
- Public Comment
- Next Meeting

September 17, 2007 Meeting Summary

The Task Force made no change to the September 17, 2007 meeting summary.

Updates

Task Force Membership - Gerald Mueller welcomed new member Ted Williams who was appointed to the Task Force represent the Flathead Lakers. Mr. Williams has a science background and is retired from Michigan State Government. The Flathead Lakers is an organization that is 30 - 40 years old. Its purpose is to protect recreational and environmental quality. It has a thirteen member board of directors and about 1,500 members.

Basin Water Supply and Growth Conference - Gerald Mueller reported that both the Montana Association of Counties (MACO) and the Montana Department of Environmental Quality (DEQ) have agreed to be co-sponsors of the conference along with the Task Force, DNRC and the University of Montana Department of Geography. This month, Mr. Mueller will convene the conference planning committee consisting of Matt Clifford, Marc Spratt, David Shively, Curt Martin and representatives of both MACO and DNRC to review the conference agenda and speakers. We will also begin to work on a contract with UM for use of its facilities.

Sub-basin Activities - Harvey Hackett reported on activities in the Bitterroot and Marc Spratt on activities in the Flathead.

The Bitterroot like much of western Montana is experiencing significant subdivision activity. In response, the recently elected county commissioners have decided to enact an emergency interim zoning ordinance, presumably aimed at stream setbacks. The commission convened a committee of volunteers to begin the process of drafting an ordinance. The committee produced a draft which did not target setbacks, but provides a general grant of authority to regulate streams. The Bitterroot and Daily Ditches Irrigation Districts were concerned with the draft and had an attorney review it and provide comments opposing adoption of the ordinance to the commission. Mr. Hackett will be attending a commission meeting tomorrow on the draft ordinance.

Water is a big topic in the Flathead, and several organizations are addressing it, including watershed groups, the Flathead Basin Commission, the Swan Ecosystem Center, the Montana Water Trust, the Flathead Irrigation District Joint Board of Control, the Yellow Bay and Whitefish Lake Research Institutes, conservation districts, and the Flathead County Planning Department. The latter is changing its subdivision regulations to require a detailed hydrologic analysis at the preliminary plat stage, including water availability. The county is also strictly enforcing flood plain and storm water runoff regulations. The conservation districts have the 310 permit responsibility over activities which impact stream bed and banks. The county and the conservation districts recently partitioned their jurisdictions so that the conservation districts address stream developments upstream of the Highway 35 Bridge over the Flathead River, and the county planning department addresses developments downstream of the bridge. The communities of Kalispell, Whitefish, and Big Fork are also addressing storm water runoff. Big Fork is attempting to determine where storm water runoff comes from and where it goes. The Salish and Kootenai Tribes and the Reserved Water Rights Compact Commission are also continuing to negotiate a water rights compact.

Member Question - Is Flathead County attempting to require new subdivisions to install community wells as is Gallatin County?
Answer by Marc Spratt - In effect this is happening. Except for minor subdivisions, the county is not approving subdivisions without community systems. The planning board is also requiring the same information as water right permit applications.

Member Question - At the recent meeting of the Water Policy Interim Committee, DNRC Water Rights Division Administrator John Tubbs advocated moving the water rights permit earlier in the subdivision approval process. Flathead County apparently is testing this idea. Is it working?

Answer by Marc Spratt - The planning board requirements will likely have the effect of permitting a larger amount of water than will be ultimately used. Developers almost always apply for a larger subdivision than is ultimately approved. Moving the water right determination early in the process, say to the preliminary plat stage, means that the developer will be forced to over invest in the water supply.

Member Question - What is the cause of the increased cost to developers from moving the water right determination from the end of the subdivision approval process to an earlier time?
Answer by Marc Spratt - The increased cost result from building a system with larger capacity. For example, the cost of 8" valves is higher than 6" valves. The developer must pay capital, infrastructure costs up front before the lots are sold. They therefore tend to oppose changes which increase their capital costs. Bigger developers are seeking annexation so that the municipality will have to bear water and sewer system costs.

Member Comment - Some counties are seeking to increase development fees to pay for infrastructure costs.

Basin Exempt Well Activities

Curt Martin gave the presentation on exempt wells which he had made to the Water Policy Interim Committee (WPIC). See Appendix 1.

Water Policy Interim Committee Priorities

At the end of its meeting on September 13, 2007, WPIC asked for advice about prioritizing the issues it had discussed for future committee deliberation and action. Rep. Cohenour, a member of WPIC, circulated a list of issues that the committee might consider. Mr. Mueller had circulated this list to Task Force members prior to this meeting. See Appendix 2 for Rep. Cohenour's list.

Individual Task Force members listed their suggested priorities. The list included:

- Exempt wells;
- The need for common definitions in DEQ and DNRC regulations;
- County authority to ensure water availability in new subdivisions;
- Coordination between state and local government subdivision regulation;
- Incentives for community wells and sewer systems;
- Identification of areas with water availability problems;
- Enforcement and monitoring of water related permits;
- The need to alter the water rights change rules to protect old water rights;
- Modify the abandonment rule to eliminate the 10 years non-use period to facilitate water banking;
- In the determination of legal water availability, define "calculable" (as opposed to "measurable") and define "adverse impact."
- Define "reservoir" to include water stored underground in aquifer storage and recovery projects.

Task Force Action - After a discussion, the Task Force, agreed to send a letter to WPIC proposing two issues as priorities for its deliberation and action: exempt wells and enforcement and monitoring. Mr. Mueller was directed to draft a letter to this effect to WPIC and circulate the letter for comment by Task Force members before finalizing it.

Hungry Horse Water Activities

Consultation with Basin Local Governments - At its last meeting, the Task Force accepted DNRC's recommendation that it request on the order of 100,000 acre-feet of Hungry Horse water be allocated for municipal and industrial uses in Montana. Mr. Mueller stated that John Tubbs was reluctant to proceed with requesting this amount until consulting Clark Fork basin local governments. Mr. Tubbs asked that the Task Force facilitate this consultation.

Task Force Action - The Task Force agreed that its members should visit the basin county commissions to discuss the Hungry Horse initiative, including a state request to reserve water for Montana water uses. Commissioners need not be asked to agree to any specific amount of water. Should commissions wish to do so, a letter from them to John Tubbs supporting the concept would be helpful.

Consultation with the Confederated Salish and Kootenai Tribes - Gerald Mueller reported that he discussed with John Carter, the head of the Tribal legal department, a meeting between Clayton Matt, Head of the Tribal Natural Resources Department, Mr. Carter, other appropriate Tribal officials, John Tubbs, and Mr. Mueller. Mr. Carter agreed to the idea of a meeting and promised to consult with Mr. Matt and call Mr. Mueller.

Next Steps

The Task Force agreed to return to a meeting format that would continue after lunch. Mr. Mueller agreed to schedule meetings from 9:30 a.m. to 2:00 p.m. or later and provide lunches at Task Force meetings.

Public Comment

There was no additional public comment.

Next Meeting

The next meeting was scheduled for Monday, November 5, 2007. The meeting will begin at 9:30 a.m. and end at 2:00 p.m. Lunch will be provided.

Appendix 1

"Wells Exempt from the Permitting Process"
Presentation Outline by
Curt Martin, Water Resources Div., DNRC
9/13/2007

a. Number of exempt wells currently in Montana

i. Numbers presented are for all exempt ground water rights, not just wells. It includes developed springs and excavations below the water table for ponds/pits.

ii. Includes any beneficial use, not just domestic

iii. Noncompliance—Not everyone who puts in a well or other ground water development files for an exempt ground water right. Many simply ignorant of the after-put-to-beneficial-use requirement or assume that the well log prepared by the well driller suffices. Other western states require a form to be filed as permission to drill a well, but they don't necessarily get a water right. Compliance has been better in recent years with educational efforts. For example, between January 1, 1994 and July 1, 2007, over 100,000 well logs were filed with the Bureau of Mines and Geology, but only 32,125 exempt Certificates were issued by DNRC. Certainly compliance is greater than 32%, because well logs are filed for wells that produce more than 35 gpm, for monitoring wells, and for wells on lots that perhaps are never sold or built upon. My own best professional guess is that today, about 60-70% of newly used wells get filed on.

iv. Total # of Certificates of Water Right since 7/1/1973 is 104,142 as of 9/1/2007.

v. Attached Table (Pg. 3). Chose 1991 as start because that was the year the exemption was changed by the Legislature from "less than 100 gpm" to "35 gpm or less and 10 ac-ft/yr or less." At that time, the exemption was reduced over concern that it was being abused for considerable acreages of irrigation (perhaps 10 acres) and large subdivisions and trailer parks, etc. Figures for first half of 2007 may be misleading—most certificates issued in the second half of the year during and after the construction season.

vi. Probably close to 40,000 Certificates issued under current 35gpm exemption by the end of 2007. Over half in Ravalli, Flathead, Gallatin, Lewis & Clark, and Missoula Counties. Almost 80% in top 14 counties, and conversely, only 20% in 42 counties.

b. Number expected at current rates by January 1, 2020

i.	Low estimate (same amount as last 13.5 years):	32,000 more
ii.	Medium estimate (same amount as last full year x 13.5):	58,000 more
iii.	High estimate (2% growth on last full year):	78,000 more

c. Types of beneficial uses for which exempt wells are used

i. An exempt Certificate can be issued for more than one purpose. Records indicate there are 152,328 purposes listed on the 104,142 Certificates issued since 1973, including 31 different types of purposes. Some of the more common purposes include domestic (included on 75% of all Certificates); stock watering (32%); lawn and garden (24%); irrigation (6.5%); commercial (2.6%); multiple domestic (1.9%); and fish, waterfowl, wildlife, recreation-related purposes (1.7%).

ii. It should be noted that domestic and multiple domestic purpose automatically include ¼ acre of lawn irrigation per household, therefore when the purpose lawn and garden or irrigation appears on the Certificate, it is for more than ¼ acre of irrigated area.

iii. Some of the significant but less common purposes an exempt Certificate have been issued for include agricultural spraying, fire protection, geothermal heating and cooling, industrial, mining, municipal and institutional, and oil well flooding.

d. Reasonable use of water in comparison with the current statutory limits including volume, flow rate, and any other criteria

i. The statuory limits are for total amount of water used, or diverted. For many purposes, much of the water returns to the source. The last page of handout shows the general guidelines we use for many different water uses.

ii. In terms of the ground water use statutory limits, the 10 acre-feet volume limitation is probably more important than the 35 gpm flow rate limitation. This is just the opposite from surface water and the reason is that the impacts from a surface water diversion are much more immediate and unattenuated upon other water users. Impacts from ground water users, especially upon surface water users, depend more on the volume of water removed from aquifer over time than the instantaneous flow rate at which it is removed. There are exceptions to this, especially in terms of ground water diversions upon other ground water diversions.

iii. In terms of the consumption of water or loss to the hydrologic system, some uses are a heavier drain than others. For example, some uses are virtually 100% nonconsumptive, such as wells used to serve closed system ground source heat pumps. In these systems, water is piped from the well through a heating or air conditioning unit and reinjected back into the ground. Not all these systems are completely closed, however, some use ponds to allow the water to cool and gradually seep back into the aquifer, but they lose some water through evaporation.

iv. Domestic and lawn and garden use—Two parts: In-household uses consume about 12%, 2% indoors from evaporation and 10% through evpotransipration in waste water treatment. Outdoor use is much more consumptive in terms of evapotranspiration. While it varies across the state with the climate, a rough statewide average is that 50% of what is diverted is consumed in lawn and garden irrigation. For a single household with up to 5 people with a ¼ acre of lawn and garden, we have generally estimated the volume of water diverted to be about 1.7 acre-feet per year. Using these calculations above, of that amount, approximately .47 acre-feet of water is consumed per year. The amount consumed increases dramatically with the area of lawn and garden. For example if the area irrigated is one acre, we would issue a Certificate for 3.5 acre-feet and the amount consumed would be 1.37 acre-feet per year.

v. Stockwater use: The total use standards are calculated based upon animal units on the green sheet. In terms of purely water quantity, this not a high consumptive use. Less than 10% is consumed, although that amount may be higher for dairy cows.

vi. Commercial use: Generally this is a fairly non-consumptive use depending on the number and size of the-in store restrooms and sinks.

vii. Multiple domestic use: In some cases, single Certificates have been issued for up to ten households where they do not claim much lawn watering. Often, they also involve a cistern or storage tank that allows them to pump 35 gpm or less for longer periods, that creates storage and water pressure, and still not reach the 10-acre-feet per year threshold.

viii. Fish, waterfowl, wildlife, and recreation-related uses: The Department has struggled mightily to try and define what a "reasonable" amount of water is for these uses. Usually, these uses involve ponds that are created through excavations deep enough to intercept the ground water table. Some times, these are attempts to reclaim abandoned gravel pits. In some cases, wells may be used to maintain water levels and make up water lost to evaporation. The design of the pond is important

to the actual purpose. Wetland ponds need not be more than 3-5 feet deep and the banks should be gradually sloped. Fishponds that are expected to over winter trout species need to be fairly deep, and with sufficient size for oxygenation purposes. In other cases, the ponds may have little more than aesthetic value to a land-owner, in which case it is pretty hard to quantify what is a reasonable size for the pond and what is unreasonable. Evaporation is the biggest factor in the consumptive loss, and again, varies with the climate. The losses range across the state from a little less than 3 feet of surface area losses to a little over 50 inches of surface area losses per year. In order to fit under the 10 acre-foot per year limit, the volume of the pond is calculated plus the loss to evaporation. To qualify for the exemption the pond is usually going to have to be less than 2 -3 acres in surface area.

e. Other pertinent information

i. Montana is one of the few western states that does not have any kind of preference for domestic and stock water users. Theoretically, a household use with a junior priority date is subordinate to, and could be shut down by, a senior priority date for any other purpose. In each of our neighboring states, they are also struggling with how to deal with the surface water ground water connection within the prior appropriation system. But even though they have a more developed practice in water rights enforcement, they do not enforce priorities against small domestic and stock water uses. Nor will it be an easy matter to do so. There would likely be all sorts of argument about whether a senior surface water right call against a junior ground water right would be a "futile call" and perhaps other legal arguments as well. A water commissioner will not be able to simply shut wells down like they can surface water diversions without considerable more hydrogeologic expertise and information, if we are going to treat these uses consistent with the prior appropriation doctrine.

Appendix 2

Water Policy Committee – Recommendations for prioritization – Rep. Cohenour

1. Water Quality Act Changes or Issues
    a. Discharge
        i. Surface water additions to ground water and public water supply issues
        ii. Mixing zones versus nondegradation
        iii. Size of mixing zone
        iv. Mixing zones and well 100' radius cannot expand past property boundaries
        v. Preconstruction inspection for septic location (stakes)
    b. Community systems
        i. Opportunities for cost sharing
    c. Introduction of surface water to ground water
        i. Treatment requirements
        ii. Disinfectant byproducts
        iii. Need for overlap between DNRC and DEQ

2. Definitions
    a. Community well -- compare DNRC definition to DEQ definition. Do they need to be the same?
    b. Public water supply definition
    c. Municipal use
    d. Combined appropriation

3. Enforcement/Monitoring
    a. Water rights
    b. Mitigation/aquifer recharge
    c. Water quality

4. County Authority
    a. Water quality
    b. Legal availability – water rights before final plat

5. Exempt Wells
    a. Subdivision regulations
    b. Legal availability – agencies work together
    c. Water marketing options

6. Incentives
    a. Promote community water and sewer
    b. Cost sharing state/county/industry

7. Water and sewer districts
    a. Private vs. public
    b. Oversight

8. Prioritize or provide new money for grant and loan programs for community water and sewer projects.

9. Subdivision size and type rather than just size to try to address applications submitted right under the cutoff.

10. Well Locations
    a. Well Drillers Rules
    b. Well Permitting through counties
    c. Preconstruction inspection (pin location for well)

11. Subdivision applications
    a. Regardless of water source (exempt wells, community well, etc) require a hydrogeologic assessment of aquifer

b. Require monitoring wells and instrumentation of wells
c. Require pump testing to design capacity (for example if developer needs 100 gpm the developer must conduct pump tests showing that the well(s) is capable of meeting that need – either 1 well pumping 100 gpm or 20 wells pumping 5 gpm, etc.)

12. Aquifer Storage and Recover
    a. Impact on Public water supplies